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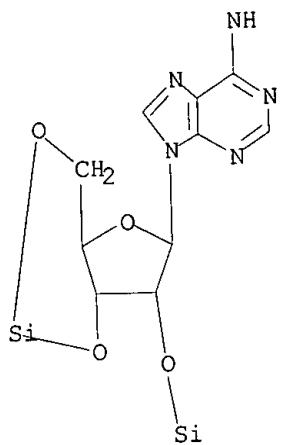
FILE 'REGISTRY' ENTERED AT 10:06:01 ON 12 AUG 2003

L1           STRUCTURE UPLOADED  
L2         1 S L1 SSS SAM  
L3         35 S L1 SSS FULL  
L4           STRUCTURE UPLOADED  
L5         0 S L4 SSS SAM  
L6         3 S L4 SSS FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 10:10:29 ON 12 AUG 2003

L7         141 S L3  
L8         8 S L6  
L9         6 S L7 AND L8

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L4 STR

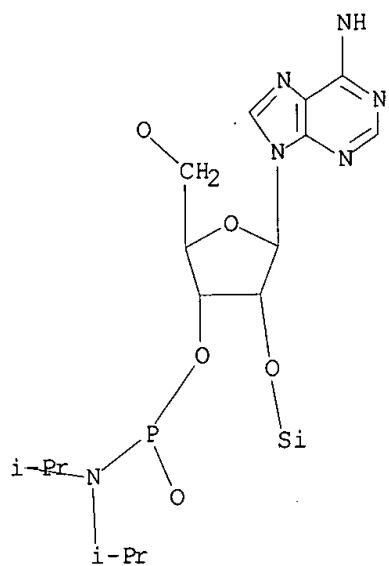


Structure attributes must be viewed using STN Express query preparation.

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L1 STRUCTURE UPLOADED

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L1 STR

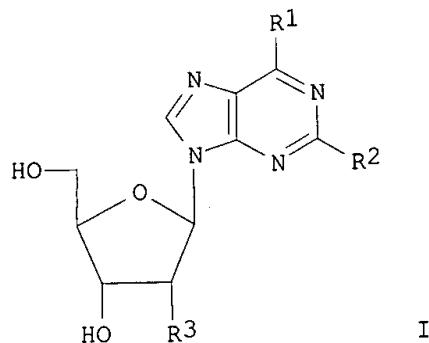


Structure attributes must be viewed using STN Express query preparation.

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2002:794206 CAPLUS  
 DOCUMENT NUMBER: 137:295195  
 TITLE: Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside phosphoramidites and succinates  
 INVENTOR(S): Beigelman, Leonid; Karpeisky, Alexander; Serebryany, Vladimir; Haeberli, Peter; Sweedler, David  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 59 pp., Cont.-in-part of U.S. Ser. No. 944,554.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002150936	A1	20021017	US 2002-43951	20020111
US 2002120129	A1	20020829	US 2001-944554	20010831
PRIORITY APPLN. INFO.:			US 2000-230057P	P 20000901
			US 2001-286571P	P 20010425
			US 2001-944554	A2 20010831

OTHER SOURCE(S): CASREACT 137:295195  
GI



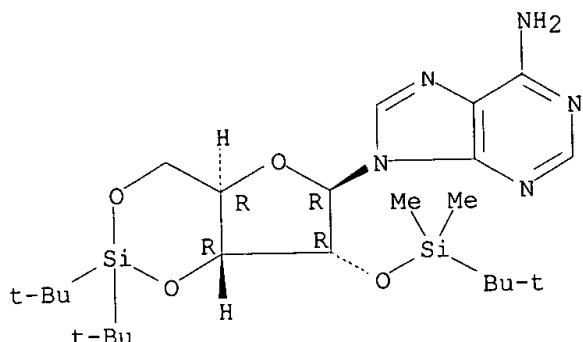
AB The present invention provides methods for the chem. synthesis of nucleosides I wherein R1 and R2 are independently hydrogen, substituted amine, aminoalkyl, fluoro or chloro; R3 is independently alkyl, alkoxyalkyl, alkylthioalkyl, cyanoalkyl, or arylalkyl optionally substituted with up to three groups that are independently halogen, alkoxy, nitro, or alkyl; and derivs. thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-Me, 2'-O-silyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivs. The invention provides a universal method for the synthesis of 2'-deoxy-2'-aminopurine and pyrimidine nucleosides and C-nucleosides that employs fewer synthetic steps, avoids the use of azides, and which concomitantly introduces N-phthaloyl protection of the 2'-amine. Thus, 5'-O-DMT-2'-deoxy-2'-N1-phthaloyl-N4-acetylcytidine 3'-O-(2-cyanoethyl-N,N-diisopropylphosphoramidite) was prep'd.

IT 212375-93-4P 401812-98-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 212375-93-4 CAPLUS

CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

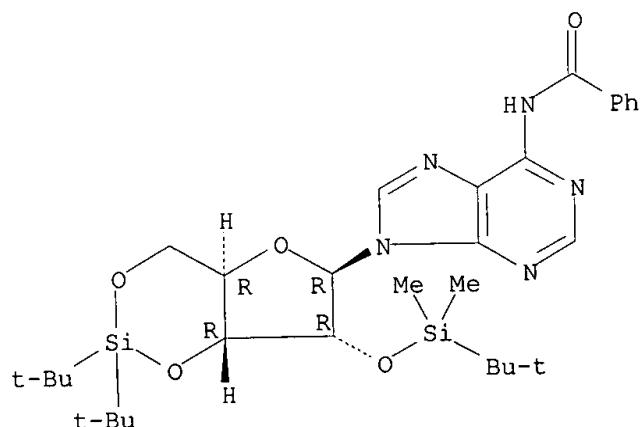
Absolute stereochemistry.



RN 401812-98-4 CAPLUS

CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



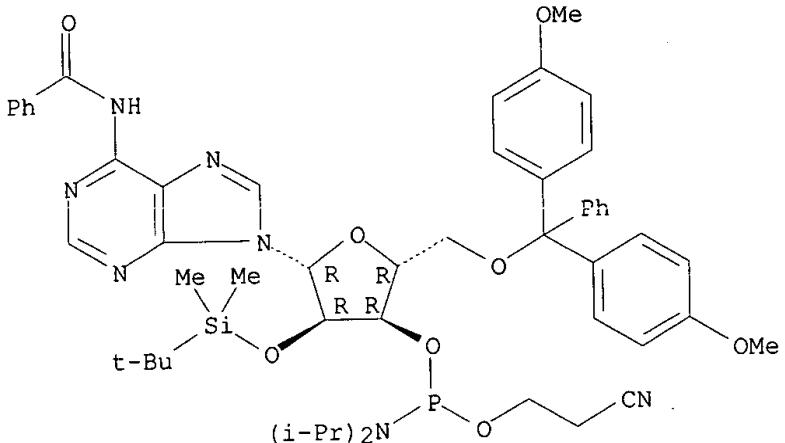
IT 104992-55-4P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 CAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:171919 CAPLUS

DOCUMENT NUMBER: 136:200423

TITLE: Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside phosphoramidites and succinates

INVENTOR(S): Beigelman, Leonid; Karpeisky, Alexander; Serebryany, Vladimir; Haeberli, Peter; Sweedler, David

PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Incorporated, USA

SOURCE: PCT Int. Appl., 118 pp.

CODEN: PIXXD2

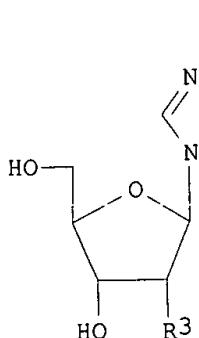
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018405	A2	20020307	WO 2001-US27116	20010831
WO 2002018405	A3	20030103		
			W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
			RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
AU 2001086959	A5	20020313	AU 2001-86959	20010831
EP 1313752	A2	20030528	EP 2001-966449	20010831
			R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR	
PRIORITY APPLN. INFO.:			US 2000-230057P	P 20000901
			US 2001-286571P	P 20010425
			WO 2001-US27116	W 20010831
OTHER SOURCE(S):			CASREACT 136:200423; MARPAT 136:200423	
GI				



I

**AB** The present invention provides methods for the chem. synthesis of nucleosides I wherein R1 and R2 are independently hydrogen, substituted amine, aminoalkyl, fluoro or chloro; R3 is independently alkyl, alkoxyalkyl, alkylthioalkyl, cyanoalkyl, or arylalkyl optionally substituted with up to three groups that are independently halogen, alkoxy, nitro, or alkyl; and derivs. thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-Me, 2'-O-silyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivs. The invention provides a universal method for the synthesis of 2'-deoxy-2'-aminopurine and pyrimidine nucleosides and C-nucleosides that employs fewer synthetic steps, avoids the use of azides, and which concomitantly introduces N-phthaloyl protection of the 2'-amine. Thus, 5'-O-DMT-2'-deoxy-2'-N1-phthaloyl-N4-acetylcytidine 3'-O-(2-cyanoethyl-N,N-diisopropylphosphoramidite).

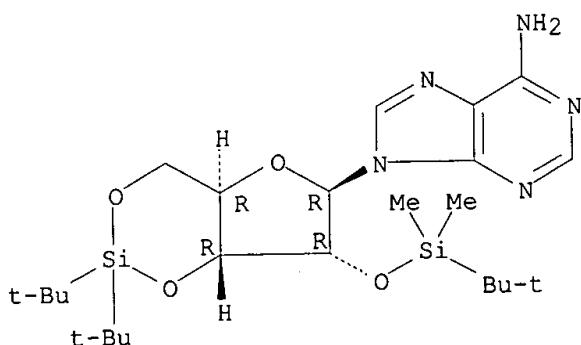
**IT** 212375-93-4P 401812-98-4P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 212375-93-4 CAPPLUS

CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

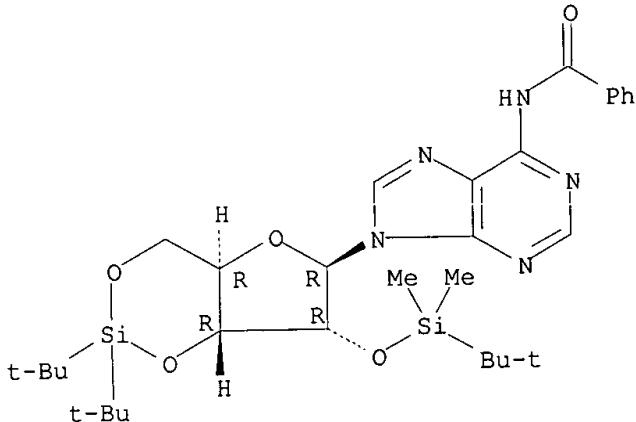
Absolute stereochemistry.



RN 401812-98-4 CAPPLUS

CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



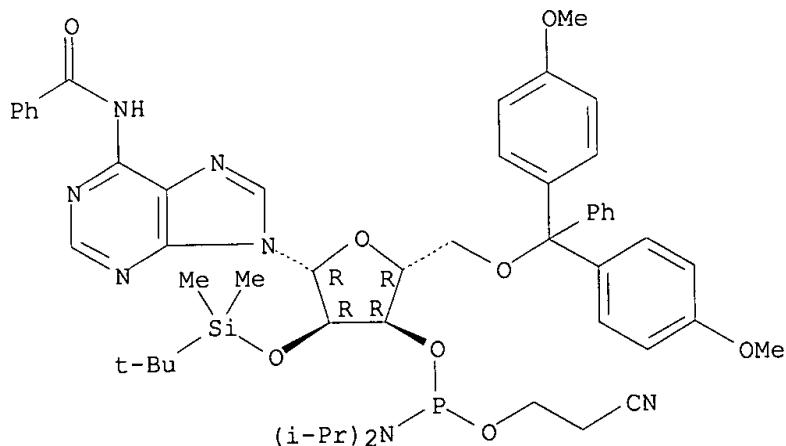
IT 104992-55-4P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (methods for synthesizing nucleosides nucleoside derivs. and  
 non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 CAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:675073 CAPLUS

DOCUMENT NUMBER: 136:37850

TITLE: Efficient synthesis of D-[1'-13C]-ribonucleosides for incorporation into oligo-RNA

AUTHOR(S): Saito, Y.; Nyilas, A.; Agrofoglio, L. A.

CORPORATE SOURCE: I.C.O.A. associe CNRS, Faculte des Sciences, Orleans, 45100, Fr.

SOURCE: Nucleosides, Nucleotides & Nucleic Acids (2001), 20(4-7), 937-940

CODEN: NNNAFY; ISSN: 1525-7770

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

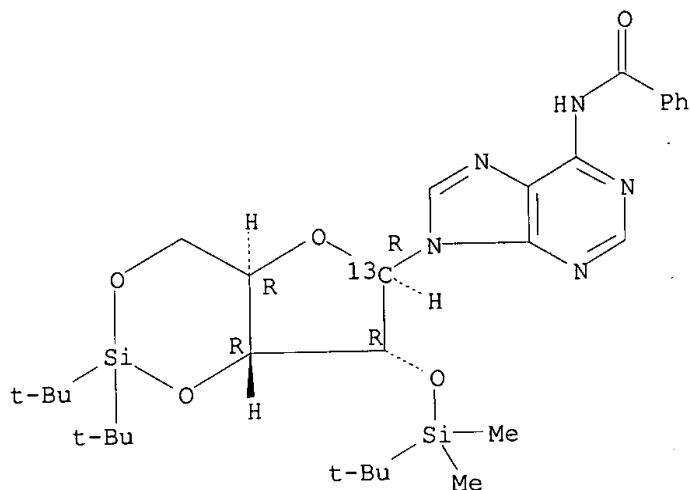
OTHER SOURCE(S): CASREACT 136:37850

AB Syntheses of the monomer building blocks used for the solid-phase

synthesis of specifically 1'-13C-labeled oligoribonucleotides from the D-[1-13C]ribose is presented. The procedure has been used for the selective formation of 2'-O-silylated ribonucleosides. Following 5'-O-dimethoxytritylation, the synthesis of D-[1'-13C] ribonucleoside phosphoramidites has been achieved.

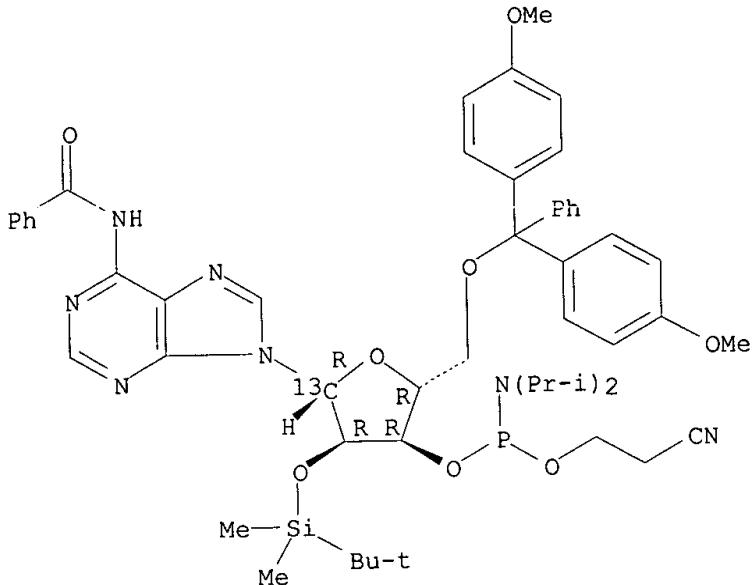
- IT 335595-77-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (synthesis of ribonucleosides for incorporation into oligo-RNA)
- RN 335595-77-2 CAPLUS
- CN Adenosine-1'-13C, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[ (1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- IT 335595-86-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis of ribonucleosides for incorporation into oligo-RNA)
- RN 335595-86-3 CAPLUS
- CN Adenosine-1'-13C, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[ (1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

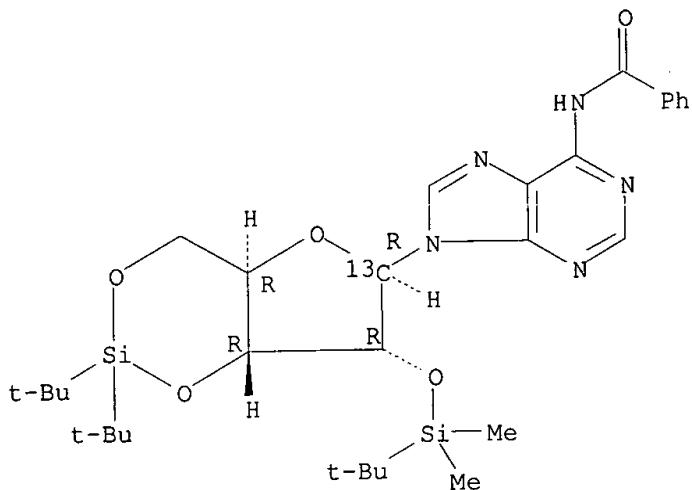
Absolute stereochemistry.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2001:154378 CAPLUS  
 DOCUMENT NUMBER: 134:326702  
 TITLE: Synthesis of isotopically labeled d-[1'-  
 13C]ribonucleoside phosphoramidites  
 Saito, Y.; Nyilas, A.; Agrofoglio, L. A.  
 CORPORATE SOURCE: Institut de Chimie Organique et Analytique, CNRS UMR  
 6005, Universite d'Orleans, Orleans, 45100, Fr.  
 SOURCE: Carbohydrate Research (2001), 331(1), 83-90  
 CODEN: CRBRAT; ISSN: 0008-6215  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 134:326702  
 AB The prepn. of fully protected labeled diisopropylamino-.beta.-cyanoethyl-  
 [1'-13C]ribonucleoside phosphoramidites with regioisomeric purity is  
 described. We demonstrated in this paper that a regioselective  
 2'-O-silylation, through a 3',5'-O-di-tert-butylsilylenediyl protection, has  
 been applied for the synthesis of [1'-13C]ribonucleoside phosphoramidite  
 units. This method allowed us to obtain only the desired  
 2'-O-silyl-3'-O-phosphoramidites avoiding the undesired  
 3'-O-silyl-2'-O-phosphoramidite nucleosides isolated by std. procedures.  
 This is a suitable procedure to RNA precursors with respect to the  
 isotope-contg. precursors.  
 IT 335595-77-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (synthesis of isotopically labeled d-[1'-13C]ribonucleoside  
 phosphoramidites via regioselective silylation as synthons for RNA)  
 RN 335595-77-2 CAPLUS  
 CN Adenosine-1'-13C, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-  
 [(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



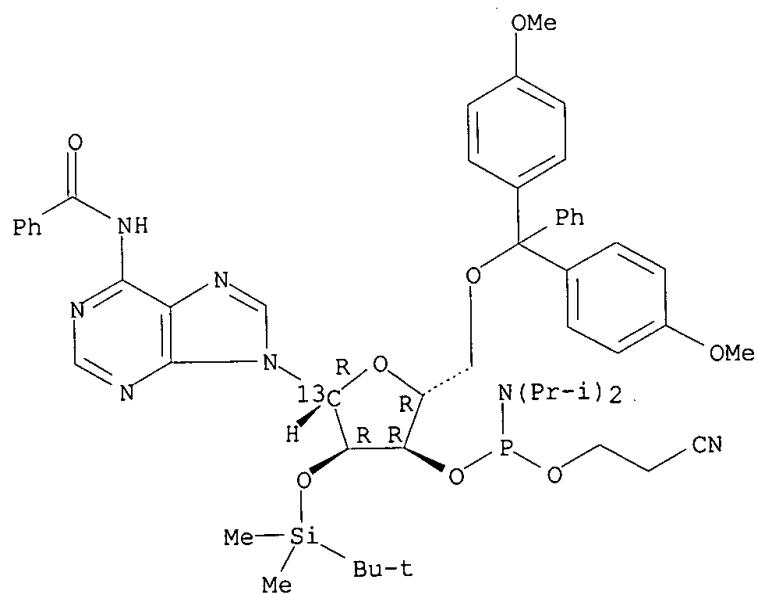
IT 335595-86-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of isotopically labeled d-[1'-13C]ribonucleoside  
phosphoramidites via regioselective silylation as synthons for RNA)

RN 335595-86-3 CAPLUS

CN Adenosine-1'-13C, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-  
[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-  
methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

14 . THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2002:272815 USPATFULL

TITLE:

Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside derivatives

INVENTOR(S): Beigelman, Leonid, Longmont, CO, UNITED STATES

Karpeisky, Alexander, Lafayette, CO, UNITED STATES

Serebryany, Vladimir, Boulder, CO, UNITED STATES

Haeberli, Peter, Berthoud, CO, UNITED STATES  
Sweedler, David, Louisville, CO, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002150936	A1	20021017
APPLICATION INFO.:	US 2002-43951	A1	20020111 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-944554, filed on 31 Aug 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-286571P	20010425 (60)
	US 2000-230057P	20000901 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606	
NUMBER OF CLAIMS:	45	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	15 Drawing Page(s)	
LINE COUNT:	4139	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for the chemical synthesis of nucleosides and derivatives thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-methyl, 2'-O-silyl, 2'-O-triisopropylsilyloxymethyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivatives.

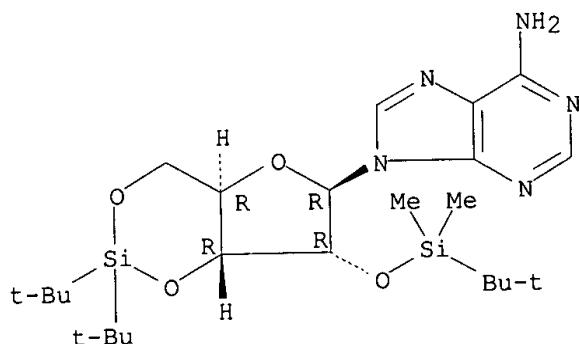
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 212375-93-4P 401812-98-4P  
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 212375-93-4 USPATFULL

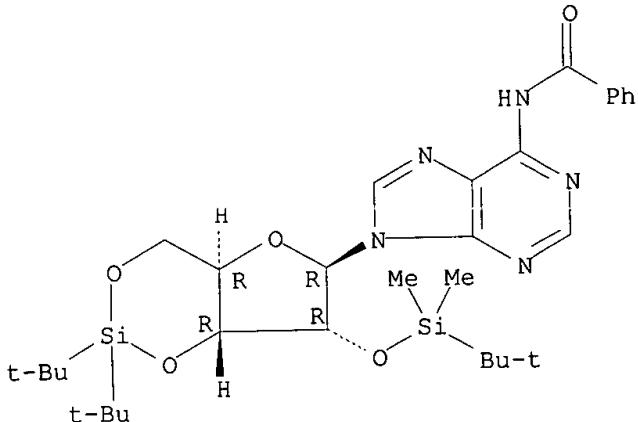
CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 401812-98-4 USPATFULL  
CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

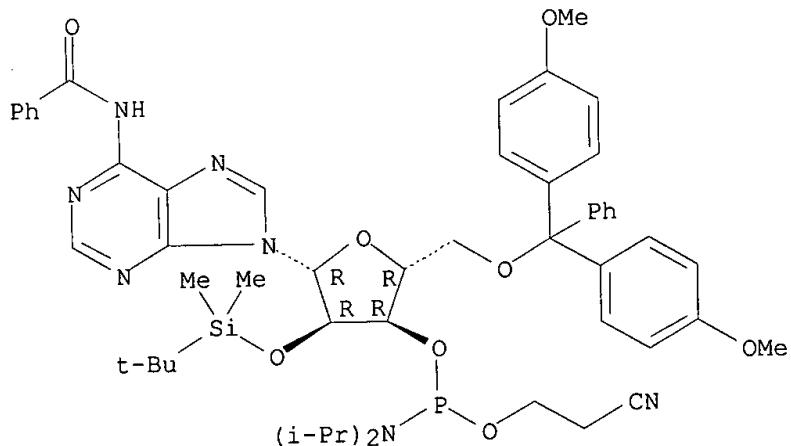


IT 104992-55-4P  
 (methods for synthesizing nucleosides nucleoside derivs. and  
 non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 USPATFULL

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 6 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2002:221984 USPATFULL

TITLE: Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside derivatives

INVENTOR(S): Beigelman, Leonid, Longmont, CO, UNITED STATES  
 Karpeisky, Alexander, Lafayette, CO, UNITED STATES  
 Serebryany, Vladimir, Boulder, CO, UNITED STATES  
 Haeberli, Peter, Berthoud, CO, UNITED STATES  
 Sweedler, David, Louisville, CO, UNITED STATES

	NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002120129 A1 20020829  
 APPLICATION INFO.: US 2001-944554 A1 20010831 (9)

	NUMBER	DATE
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PRIORITY INFORMATION: US 2000-230057P 20000901 (60)

US 2001-286571P 20010425 (60)

DOCUMENT TYPE:

Utility

FILE SEGMENT:

APPLICATION

LEGAL REPRESENTATIVE:

MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER  
DRIVE, SUITE 3200, CHICAGO, IL, 60606

NUMBER OF CLAIMS:

75

EXEMPLARY CLAIM:

1

NUMBER OF DRAWINGS:

15 Drawing Page(s)

LINE COUNT:

3846

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for the chemical synthesis of nucleosides and derivatives thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-methyl, 2'-O-silyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivatives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

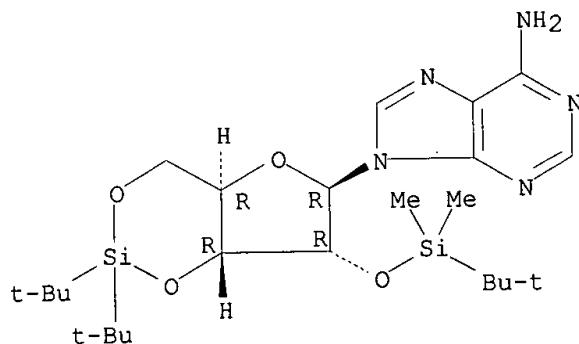
IT 212375-93-4P 401812-98-4P

(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 212375-93-4 USPATFULL

CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

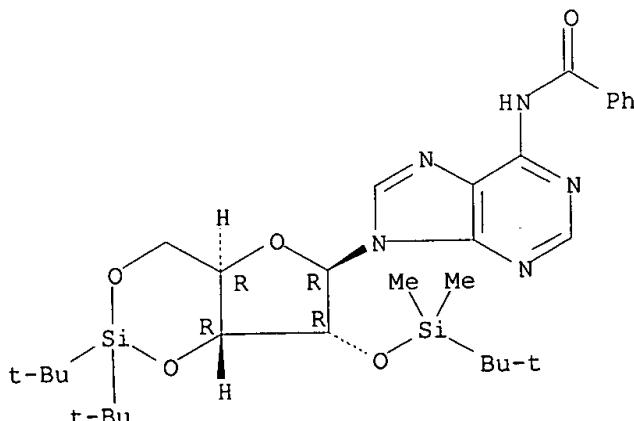
Absolute stereochemistry.



RN 401812-98-4 USPATFULL

CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



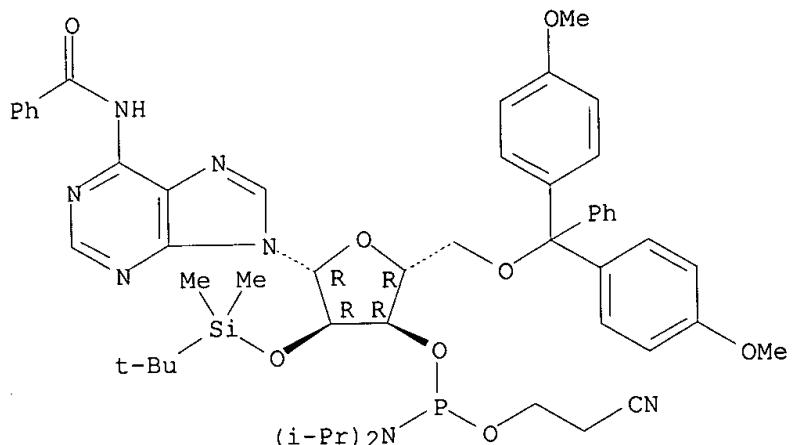
IT 104992-55-4P

(methods for synthesizing nucleosides nucleoside derivs. and  
non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 USPATFULL

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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